TORREY CORRESPONDENCE
HERBARIUM
COLUMBIA UNIVERSITY.

Fort Gratiot Michigan
30th July 1849

My dear Sir

I have recently noticed in Dr. Gray's "Manual of the Botany of the Northern United States", that he says p. 219. under the head Silphium Laciniatum "Lower leaves "said to present their faces uniformly north and south (which "is not the case) and hence called Compass plant."

He should have said that it is alleged that the edges are presented uniformly north & south -- In your communication to me of 14th March 1843, acknowledging the reception of a letter & specimen of the plant from me you alluded to the joint labors of Dr. Gray & yourself in publishing a work on the "Flora of North America" -- I infer therefrom that this denial of the polarity of the plant by Dr. Gray proceeds from your want of faith in my allegations as set forth in my letters to you, & in my published letters to the National Institute of Aug. 1842 and January 1843. It is true that this Manual is published in the name of Dr. Gray, & I perceive that the portion of your "Flora of N. A." referring to the Silphium Laciniatum was published in April 1842 before my letters were published - Still as in your letter to me you asked me to communicate on such subjects; and said that "any rare or new plants "or observations on species already known that you "may send us shall be faithfully recorded & proper "acknowledgements made" ; I infer that this want of confidence on this subject may have originated with you. If so, your sources of information are mistaken in the premises -

Now it is the scientific interest which attaches to this matter, & not only my desire to sustain my own testimony, which leads me to take steps to fortify my statements — I never did announce this as a discovery of my own; — I only proposed to announce what was well known at the west, & to those who lived on the prairies —

Before seeing Dr. Gray's work I addressed letters to officers who accompanied Gen Kearney, Expeditions to New Mexico & California to learn how far west they had seen the Polar Plant, & also incidentally asked their testimony as to the fact of its polarity ——

Surgeon De Camp writes me from Carlisle Pa March 20th 1849. After saying that he only found it as far west as the rich prairies which extend some 300 miles from State of Missouri he adds. "I have been acquainted with the peculiarities "of the Polar Plant for nearly thirty two years, and am perfectly "satisfied that while the plant is healthy and of a vigorous growth "the edges of the leaves point northerly and southerly with sufficient accuracy to be of great service to the benighted "traveller."

TORREY CLUB TRADE MK.
HERBARIUM
COLUMBIA UNIVERSITY.

Bt Major Henry S. Turner then of 1st Dragoons writes from St. Louis 22d April 1849 that he saw the plant neither in California nor New Mexico nor west of the rich prairies (thus confirming the testimony of Dr. De Camp) and adds. "With respect to ~~the~~ its "property of polarity or pointing north and south, my attention "was first drawn to it fourteen years ago by Major Nathan "Boone of the 1st Dragoons, perhaps the oldest, the ablest and the most "experienced pioneer of the west. In all my subsequent

"prairie expeditions I have uniformly observed this
"property in the Polar Plant, and have never observed a
"departure from it, except when there was some assigna-
"ble cause apparent to interfere with the natural
"direction of its growth, such as winds, the trampling of
"Buffalo, or cattle &c."

The statements of these accomplished officers silenced the conclusions in the matter. Dr. De Camp once told me that after the publication of my letter he had especially noticed the indications of the plant on a journey, I think in 1843 from Fort Gibson Mouth of Ark. to Jefferson Barracks Mo. —

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Since I sent the plant to you in Sept 1842 my principal opportunities to observe it, the plant were at Jefferson Barracks .. I never could get the plant to grow from the seed .. I had commenced a series of observations in May 1844 when the plant in its Early growth (at F. B) when I was unfortunately ordered away & have never been able to find it since — I could not find it on the barren prairies west of Nueces to Rio Grande or in Mexico; or in this part of Michigan. It is found on prairies of Southern Michigan

My additional observations made near F. B. and carefully repeated, fully confirmed my previous conclusions .. The indications are most accurate in mid-Summer after the radical leaf attains its full growth & before the decay of fall commences — Of the flowering plant (which is after the ~~second~~ first year growth I believe) my observations led me to further interesting suppositions —

The leaves in this put out around a stalk, & turned ~~at~~ in ordinary plants assume a symmetrical position in reference to the stalk -- But in this flowering Silphium laciniatum, they appear to take a medium position between its tendency to assume that symmetrical position and its tendency to point north & south — all this I grant however requires more full & careful & repeated observation ——— Minds of mine, men of science at the west, have by their observations not only confirmed the fact of the polarity of this plant, but say that they find other plants exhibiting like peculiarities -- This is worthy of investigation & may lead to some interesting Generalizations — Dr. Eideon B. Smith of Baltimore said that the Silphium terebinthinaceum had its leaves alternately East & west & north & south ———

The cause of the phenomena is yet to be discovered — I still think that Electrical currents will be found to be the cause, as it is well known in Electro magnetism that there are many arrangements of Electrick currents in one plane, (moving on a vertical pivot) which would cause it to point north & south: and certain other arrangements would make the plant point East & west — The resinous matter in the plant may be rather cause but how remains to be set forth -

I had several Conferences in 1844 with your friend Dr. Englemann of St. Louis — He promised to endeavour to get time to observe it — but in '47 he wrote me that his professional labors had prevented his doing so -

I have sent a paper going more at length into this whole matter to be submitted to the Convention of the "American association for the Promotion of Science", which, it is announced, is to assemble at Cambridge Mass on the 14th August —

I remain very truly & respectfully your
Benjn Alvord
Bt Major U.S.A.

Prof. John Torrey M.D.
Princeton N.J.

TORREY CORRESPONDENCE
HERBARIUM
COLUMBIA UNIVERSITY.

Ans.
March 15th

New York City
Sept 20 1842

TORREY CORRESPONDENCE
HERBARIUM
COLUMBIA UNIVERSITY.

Dear Sir

I have to acknowledge the favor of
yours of the 2d inst.

To-day I have with Wiley & Putnam
a specimen for four of the "Polar" plant of the
Western Prairies which I spoke of in my former
letter.

Will you be good enough to write me directly
to Jefferson Barracks Missouri, stating what you
consider its botanical description.

I presume from Prof. Bailey's statement that
I was mistaken in calling it a Senna. He
thinks it to be of the Compositae family — Gen:
flowers tube — perhaps Silphium laciniatum.

I think you must have the plant
without knowing of its polarity — Prof. B.
thinks that it must grow into a tall stout
with a yellow blossom which he saw on the
prairies of Illinois! (I think I am the same myself)
— Losing its polarity after
it leaves the infant growth — This is the
opinion of a Mr. T. Shead of Ky. who (it seems
by a communication in Nat' Intell of Aug 30) it

Communicated a description of the same
for the American Farmer in 1833 —

Since I wrote you, besides
knowing of its location on all the prairies
west of the Mississippi, I have heard of
its being seen in Illinois, Wisconsin, Kentucky
Alabama, &c — Each of that kind — So
it belongs ~~literally~~, to the prairie —

I think future experiments
must show that its [illegible] is due to ~~the~~
electrical currents ~~[illegible]~~ be found to
permeate its whole structure — This would
be speedily to the doctrines of Electro =
Magnetism ——— It is of a various
character —

Will you please inform me if you should
examine its structure with a magnifying
glass, what you think is the mode of dis=
tribution of its sap — whether in spiral ducts
or otherwise —

TORREY CORRESPONDENCE
HERBARIUM
COLUMBIA UNIVERSITY.

I intend to devote it still further
at Jefferson Barracks which I shall be
detained for some time to come —

I am sorry I cannot find
time to visit Princeton — — I have
for I. B. to-day ———

Give my compliments to
Prof Alexander in your astronomical Dept —
with whom I had the pleasure of a
acquaintance

Very truly + resp

Jno Torrey

B. Alvord

Prof L. Torrey

TORREY CORRESPONDENCE
HERBARIUM
COLUMBIA UNIVERSITY.

Prof. John Torrey
M. D. &c
Princeton
N. J.

Care Gray & Putnam

TORREY CORRESPONDENCE
HERBARIUM
COLUMBIA UNIVERSITY.

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New York city

Sept 30 1854

Dear Sir

I send herewith a very small herbarium of flowers of plants gathered last Spring in the Umpqua & Willamette valleys Oregon, and a few near Fort Vancouver W.T. — I know not whether they are of any value — I sail for to return to Fort Vancouver Oct. In the mean time if you shall acknowledge the receipt of this direct to Worcester Mass.

Very respectfully

yours

B. D. Hosford

John Torrey M.D.

TORREY CORRESPONDENCE
HERBARIUM
COLUMBIA UNIVERSITY.